

REMARKS

Claims 1-5 and 7-20 are pending in the present application. The Examiner has rejected claims 1-5 and 7-20.

Rejections Under 35 USC § 103

The Examiner has rejected claims 8-11 under 35 U.S.C. 103(a) as being unpatentable over Jones et al. (US 6,363,164 B1) in view of Ramachandran et al (US 6,941,274), and further in view of Partyka et al. (US 5,941,363).

Principles of Law Relating to Obviousness

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734, 82 USPQ2d 1385, 1391 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). *See also KSR*, 127 S.Ct. at 1734, 82 USPQ2d at 1391 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”)

In *KSR*, the Supreme Court emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art,” *id.* at 1739, 82 USPQ2d at 1395, and discussed circumstances in which a patent might be determined to be obvious. In particular, the Supreme Court emphasized that “the principles laid down in *Graham* reaffirmed the ‘functional approach’ of *Hotchkiss*, 11 How. 248.” *KSR*, 127 S.Ct. at 1739, 82 USPQ2d at 1395 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 12 (1966) (emphasis added)), and reaffirmed principles based on its precedent that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* The Court explained:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 1740, 82 USPQ2d at 1396. The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.*

The Supreme Court stated that there are “[t]hree cases decided after *Graham* [that] illustrate this doctrine.” *Id.* at 1739, 82 USPQ2d at 1395. “In *United States v. Adams*, ... [t]he Court recognized that when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.” *Id.* at 1739-40, 82 USPQ2d at 1395. “*Sakraida and Anderson’s-Black Rock* are illustrative – a court must ask whether improvement is more than the predictable use of art elements according to their established function.” *Id.* at 1740, 82 USPQ2d at 1395.

The Supreme Court stated that “[f]ollowing these principles may be more difficult in other cases than it is here because the claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement.” *Id.* The Court explained, “[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *Id.* at 1740-41, 82 USPQ2d 1329, 1336 (Fed. Cir. 2006) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated

reasoning with some rational underpinning to support the legal conclusion of obviousness”). However, “the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.*

The person of ordinary skill in the art is a hypothetical person who is presumed to know the relevant prior art. *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962, 1 USPQ2d 1196, 1201 (Fed. Cir. 1986). In determining this skill level, factors to be considered include “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *Id.* (cited in *In re GPAC*, 57 F.3d 1573, 1579, 35 USPQ2d 1116, 1121 (Fed. Cir. 1995)). In a given case, every factor may not be present, and one or more factors may predominate. *Id.* at 962-63, 1 USPQ2d at 1201.

ANALYSIS

Principles of Law Relating to Obviousness

Claims are given their broadest reasonable construction “in light of the specification as it would be interpreted by one of ordinary skill in the art.” *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364, 70 USPQ2d 1827, 1830 (Fed. Cir. 2004).

The Applicant notes that in the Examiners 35 USC 103 rejection of claim 8 and the description of the combination of Jones, Ramachandran, and Partyka, there is no discussion of the claim element:

“in a bill acceptor-dispenser accepting and validating notes, storing selected notes in a dispensable fashion for use as change in a vending machine transaction and storing all other received notes in a non-dispensable fashion” (“storing selected notes” element).

Because this element is not described by the Examiner or taught, described, or suggested by any of the references, either alone or in combination, Applicant contends that independent claim 8 is allowable over all of the cited art references, either alone or in combination.

Although the Examiner states "Jones also discloses an escrow holding area in col. 77, lines 51-54." Applicant contends that this portion of Jones does not disclose the "storing selected notes" element referred to above. Applicant takes the opportunity to identify the basis in the specification providing support for the distinguishing claim elements so as to present the construction of this claim element to more clearly show the differences between the cited combination and the independent claim. Support for this element is as follows:

"This is directed to a bill acceptor and dispenser 60 that receives, validates and then transports bills to one of two locations. (See paragraphs 29, 31 32, and Figures 2 and 4). Some notes are transported for storage in a dispensable fashion (in note hopper 74) to be used as change in a vending machine transaction. All other bills are transported for storage in a non-dispensable fashion (in note box 72). (See paragraphs 35-42, 44, 45, 47-52, and Figures 2, 4, and 11)."

By contrast, the citation to Jones reads as follows: "The transport mechanism may also include an escrow holding area where the document being processed in a pending deposit transaction is held until the transaction is complete." Jones at column 77, lines 51-54. This does not describe the storage of some bills in a note hopper in a dispensable fashion to be used as change and all others in a note box as called out by the claim element. The Examiner makes no other statements in the rejection regarding this element.

Applicant does note that in his "Response to Arguments", the Examiner discusses this element ("Regarding Applicant's assertions concerning lack of disclosure of storing notes in a dispensable and a non-dispensable fashion..."). In arguing against Applicant's assertion, the Examiner refers extensively to Katou. However, Katou is NOT CITED against independent claim 8. Therefore its teaching (if any) has not been applied to the rejection based on Jones. In

any event Katou does not teach this element as explained herein below with respect to the rejections based on Katou.

Finally, the Examiner cites to Ramachandran as teaching that an ATM can be retrofitted into an existing vending machine and that Ramachandran teaches the making of change to a customer. The discussion cited by the Examiner has to do with a merchant who owns the ATM described in Ramachandran withdrawing cash from the ATM to use as change in the merchant's business. The withdrawing of cash from an ATM is not change in a vending machine transaction. As noted in the Abstract of Ramachandran, "The machine provides for the safe-keeping of excess cash from a merchant's business operations."

The operation of Ramachandran cited by the Examiner occurs when a merchant is low on change in the merchant's cash register. The merchant makes a withdrawal from the separately located ATM machine and puts the cash manually into the merchant's cash register. Later, if a customer purchases something in the store, the merchant might use some of this withdrawn cash as change in the transaction. Such a manual transaction lacks the claimed element of a vending machine transaction as called out in the "storing selected notes" claim element of claim 8. Further, the storage of cash in the ATM lacks the claim element of storing selected notes in a dispensable fashion and storing all other notes in a non-dispensable fashion as called out in the "storing selected notes" element of claim 8.

None of the references alone or in combination teach the dispensing of change as part of a vending machine transaction. Jones dispenses notes to a customer as part of a withdrawal transaction. There are no products vended in Jones, so there is no change dispensed in Jones. The notes to be dispensed in Jones as part of a withdrawal come from a dispensing unit 22 that is manually filled. There is no teaching in Jones of storing some notes in a dispensable fashion and other remaining notes in a nondispensable fashion. All notes received by Jones are stored only in nondispensable fashion.

Similarly in Ramachandran, there is a note storage area that is used for dispensing notes as part of a withdrawal transaction and not as change in a vending transaction. There is no

mechanism in Ramachandran where certain notes are accepted by a bill acceptor/dispenser and stored in dispensable fashion and the remainder stored in a non-dispensable fashion for use as change in a vending machine transaction.

In Partyka, there is no discussion at all of dispensing notes as change, only coins. Thus there is no teaching of accepting notes and storing some in a dispensable fashion and the remainder in a non-dispensable fashion.

Inasmuch as none of the cited references individually teach this claim element, the combination suggested by the Examiner also fails to teach this claim element. Because the combination does not teach, describe, or suggest each and every element of independent claim 8, the claim is allowable over the cited combination.

Rejection of claims 1-5, 7, and 12-20

The Examiner further rejected claims 1-5, 7 and 12-20 under 35 U.S.C. 103(a) as being unpatentable over Jones et al. in view of Ramachandran, further in view of Partyka and still further in view of Katou et al. (US 2004/0182677 A1). Applicant respectfully disagrees.

The combination suggested by the Examiner fails to teach, describe, or suggest all of the elements of the method of amended independent claims 1, 7, 18, 19, and 20. For example, independent claims 1, 7, 18, 19, and 20 include the following elements that are not taught by the combination. Below we reproduce the missing elements from each independent claim and following each element we identify the basis in the specification providing support for the distinguishing claim elements so as to present the construction of these claim elements to more clearly show the differences between the cited combination and the independent claims.

Claim 1 elements not found in cited combination.

1. *"in a note hopper storing notes received and selected to be dispensed as change by said bill acceptor-dispenser ; and"* (Basis in specification: This is directed to note hopper 74 (see paragraphs 35-42 and Figures 2, 3, and 4)).

in a transportation unit directing notes determined to be authentic to one of said note box and said note hopper and dispensing notes as change in a vending transaction from said note hopper;" (Basis in specification: This is directed to transportation unit 70 (see paragraph 38 and Figure 2) that transports bills to one of two locations. (See paragraphs 29, 31 32, and Figures 2 and 4). Some notes are transported for storage in a dispensable fashion (in note hopper 74) to be used as change in a vending machine transaction. All other bills are transported for storage in a non-dispensable fashion (in note box 72). (See paragraphs 35-42, 44, 45, 47-52, and Figures 2, 4, and 11)).

Claim 7 elements not found in cited combination

7. *"in a note hopper storing notes received and selected to be dispensed as change by said bill acceptor-dispenser;"* (Basis in specification: This is directed to note hopper 74 (see paragraphs 35-42 and Figures 2, 3, and 4)).

"using a transportation unit for directing said notes determined to be authentic to one of said note box and said note hopper and for dispensing notes from said note hopper as change in a vending transaction in response to a signal from said processor" (Basis in specification: This is directed to transportation unit 70 (see paragraph 38 and Figure 2) that transports bills to one of two locations. (See paragraphs 29, 31 32, and Figures 2 and 4). Some notes are transported for storage (in note hopper 74) to be used as change in a vending machine transaction. All other bills are transported for storage in note box 72). (See paragraphs 35-42, 44, 45, 47-52, and Figures 2, 4, and 11)).

Claim 18 elements not found in cited combination

18. *"a note hopper for storing notes received and selected to be dispensed as change by said bill acceptor-dispenser; and"* (Basis in specification: This is directed to note hopper 74 (see paragraphs 35-42 and Figures 2, 3, and 4)).

"a transportation unit for directing notes determined to be authentic to one of said note box and said note hopper and for dispensing notes from said note hopper as change in a vending transaction;" (Basis in specification: This is directed to transportation unit 70 (see paragraph 38 and Figure 2) that transports bills to one of two locations. (See paragraphs 29, 31 32, and Figures 2 and 4). Some notes are transported for storage (in note hopper 74) to be used as change in a vending machine transaction. All other bills are transported for storage in note box 72). (See paragraphs 35-42, 44, 45, 47-52, and Figures 2, 4, and 11)).

Claim 19 elements not found in cited combination

19. *"a note hopper for storing notes received by said bill acceptor-dispenser and for providing change for a vending machine transaction;"* (Basis in specification: This is directed to note hopper 74 (see paragraphs 35-42 and Figures 2, 3, and 4)).

"a transportation unit for directing said notes determined to be authentic to one of said note box and said note hopper and for dispensing notes as change from said note hopper in response to a signal from said processor;" (Basis in specification: This is directed to transportation unit 70 (see paragraph 38 and Figure 2) that transports bills to one of two locations. (See paragraphs 29, 31 32, and Figures 2 and 4). Some notes are transported for storage (in note hopper 74) to be used as change in a vending machine transaction. All other bills are transported for storage in note box 72). (See paragraphs 35-42, 44, 45, 47-52, and Figures 2, 4, and 11)).

Claim 20 elements not found in cited combination

20. *"a bill acceptor-dispenser for accepting and validating notes, storing selected notes in a dispensable fashion for use as change in a vending machine transaction and storing all other received notes in a non-dispensable fashion,"* (Basis in specification: The bill acceptor 60 receives and validates notes. Some notes are transported for storage in a dispensable fashion (in note hopper 74) to be used as change in a vending machine transaction. All other bills are transported for storage in a non-dispensable fashion (in note box 72). (See paragraphs 35-42, 44, 45, 47-52, and Figures 2, 4, and 11)).

Analysis

The Examiner includes a section called "Response to Arguments" that attempts to address these elements and cites extensively to Katou to support the Examiner's contention that Katou teaches these elements. Applicant addresses that discussion here.

The Examiner contends in part that the recycle boxes 80 of Katou store bills in a non-dispensable condition. The Examiner then contends that withdrawal box 70 of Katou stores bills to be deposited and withdrawn and so is construed to store bills in a dispensable condition. The Examiner further contends that the temporary storage box 40 of Katou is also considered to store bills in a dispensable condition.

Applicant respectfully disagrees with the Examiner that the temporary storage box 40 of Katou stores bills in a dispensable fashion as called out in the independent claims. The temporary storage box 40 of Katou is NEVER used for making change in a vending transaction. Instead, it temporarily holds deposited bills in case the transaction is reversed or cancelled. Then it returns those bills (and only those bills) to the user. There is no change making operation in Katou. This is made clear in paragraph 79 of Katou which states:

"The temporary storage box 40 has a function of successively accepting bills deposited from the deposit/withdrawal port 20 and kind-settled by the bill discriminating unit 30 at the time of

deposit transaction, reserving them temporarily *until the transaction is materialized*, and successively discharging the bills *after the materialization of the transaction*. Besides, though the details will be described later, the temporary storage box 40 in the present embodiment has a function of accepting bills which are not kind-settled by the bill discriminating unit 30 at the time of withdrawal transaction, reserving them temporarily until the withdrawal transaction is materialized, and *after the termination of the operation*, discharging the bills at the time of withdrawal reject acceptance operation.” (emphasis added). Katou at page 5, paragraph 79.

Thus, the only time bills come back out of the temporary storage box and provided is when a transaction is canceled as described in paragraph 96 as follows:

“*At the time of cancel return* (see FIG. 9), the rotary drum 401 is rotated in a direction reverse to that at the time of acceptance into the temporary storage box 40. The switching gate 504 is switched to a direction indicated by 504b. Bills wound around the rotary drum 401 are transported as indicated by arrows 501e and 501f, in a sequence reverse to that at the time of acceptance into the temporary storage box 40. The bills are then accepted into the deposit/withdrawal port 20 for return to the user.” (emphasis added). Katou at page 8, paragraph 96.

Thus Applicant contends that the temporary storage box 40 does not perform the functions of the hopper as described and claimed in the above cited elements of independent claims 1, 7, 18, 19, and 20. This is because the temporary storage box of Katou does not teach the claim element of storing notes received and selected to be dispensed as change nor the claim element of dispensing notes as change in a vending transaction from the note hopper.

The Examiner perhaps anticipated that Applicant would point out this lack of teaching on the part of temporary storage box 40 because he also discusses the withdrawal box 70 of Katou stating “Even if the temporary box is ignored, the withdrawal box expressly discloses storing bills for both deposit and withdrawal to make change”. Applicant respectfully disagrees.

Applicant now addresses withdrawal box 70 and respectfully disagrees with the Examiner that it teaches the hopper of the independent claims. Firstly, the withdrawal box 70

does not receive bills from the note acceptor dispenser as in the present independent claims. Instead, the withdrawal box 70 of Katou is manually loaded by a clerk. As stated in paragraph 86:

Bills for withdrawal *are set in alignment (or with evenness) by a clerk* in charge into an accepting space enclosed by a bottom plate guide 709, a push plate 706, a separation guide 705 and an upper face guide 708 with the foremost bill pushed against the pickup roller 711 by a spring (not shown) coupled to the push plate 706.” (Emphasis added). Katou at pages 6-7, paragraph 86.

Katou goes on to make it clear that the withdrawal box 70 does not accept bills during operation by contrasting the recycle box 80 with the deposit box 60 and withdrawal box 70 stating:

“The recycle box 80 has both the function of the deposit box 60 of continuously accepting bills and the function of the withdrawal box 70 of *continuously delivering bills* in a separated manner.” (Emphasis added). Katou at page 7, paragraph 88.

Katou then goes on to describe the complex mechanism of the recycle box that allows both deposit and withdrawal of bills, a system that is not found in the withdrawal box 70. Thus it is clear that the withdrawal box 70 cannot perform the claimed function of receiving bills for storage in a dispensable manner from the acceptor dispenser as called out in the above noted claim elements of claims 1, 7, 18, 19, and 20. The box 70 of Katou can only receive bills manually loaded outside the normal operation of the ATM of Katou.

Thus, the system of the independent claims is not taught, described, or suggested by the combination cited by the Examiner.

Terminal Disclaimer

The Examiner has not accepted the TERMINAL DISCLAIMERS filed in this application. Applicants have prepared and file concurrently herewith new TERMINAL DISCLAIMERS under 37 CFR 1.321(c) along with the TERMINAL DISCLAIMER fees.

Applicants also submit herewith a REQUEST FOR CONTINUED EXAMINATION (RCE) and tender the government fees associated with it.

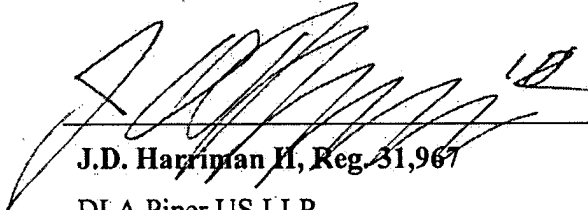
Applicants also submit herewith a PETITION FOR EXTENSION OF TIME and tender the government fees for said extension.

In view of the above amendments and remarks, applicants respectfully request that this application be reviewed and that the claims, as amended, be allowed.

Please charge any deficiency in fees or credit any overpayments to Deposit Account No. 07-1896.

Respectfully submitted,

Dated: June 10, 2008



A handwritten signature in black ink, appearing to read 'J.D. Harriman II', is written over a horizontal line.

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